

# **APPLICATION FOR A 345-KV ELECTRIC TRANSMISSION LINE FACILITY AND ASSOCIATED FACILITIES BETWEEN SCOVILL ROCK SWITCHING STATION IN MIDDLETOWN AND NORWALK SUBSTATION IN NORWALK**

## **VOLUME 1:**

### **O. ELECTRIC AND MAGNETIC FIELDS**

To assess the potential effect of the Project on electric and magnetic fields, the Companies retained Exponent™ (which evaluated the overhead portion of the Project) and Power Delivery Consultants Inc. (which examined the underground portion of the Project). The Exponent™ report, including a discussion of methodology and results, is included in Volume 6 (*Electric and Magnetic Field Assessment: Middletown-Norwalk Transmission Reinforcement*). The executive summary for this report is reproduced below.

This report describes the effect of the proposed Project on existing levels of electric and magnetic fields (“EMF”) at the power frequency and evaluates health research on EMF, including reviews of the literature published by scientific advisory organizations.

Over the last 30 years, research has been conducted in the United States and around the world to examine whether exposures to EMF have health or environmental effects. These fields are produced by both natural and man-made sources that surround us in our daily lives. They are found throughout nature and in our own bodies, and the earth itself. The earth produces a static direct current magnetic field – it is this field that is used for compass navigation.

Man-made EMF is found wherever electricity is generated, delivered, or used. Power lines, wiring in homes, workplace equipment, electrical appliances, and motors produce EMF. EMF from such AC sources in the United States changes direction and intensity 60 times per second—a frequency of 60 Hertz (Hz). Fields at this frequency differ significantly from fields at the higher frequencies characteristic of radio and television signals, microwaves from ovens, cellular phones, and radar (which can have frequencies up to billions of Hz).

The proposed Project will affect ambient levels of electric and magnetic fields, with the greatest effect within the boundaries of the Middletown to Norwalk ROW. Outside the boundaries of the ROW and substations, the effect of the project on EMF levels will be limited. At distances

greater than approximately 100 feet from edges of the proposed ROW, the differences between the levels of fields produced by existing and future line configurations become smaller for this and other route sections under consideration. This results from the overall design and the location of the proposed facilities, the proposal to expand the ROW in one section, and the placement of the 345-kV line underground between the East Devon and Norwalk Substations.

The consensus of scientists who have reviewed the literature for scientific and regulatory organizations including the International Agency for Research on Cancer, the National Institute of Environmental Health Sciences, the Health Council of the Netherlands, and the National Radiological Protection Board of Great Britain is that no cause and effect relationship between EMF from any source and ill health has been established at the levels generally found in residential environments. Moreover, the information provided in this report demonstrates that the proposed Project complies with the Council's Electric and Magnetic Field Best Management Practices.